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VICTORIA

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DEPARTMENT OF HEALTH

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THIRTYSEVENTH REPORT  
of the  
COMMISSION OF PUBLIC HEALTH  
to the  
MINISTER OF HEALTH.

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COMMISSION OF PUBLIC HEALTH.

KEVIN BRENNAN, M.B., B.S.,  
D.P.H.

Chief Health Officer (Chairman)

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Representing Metropolitan  
Municipalities.

Cr. ARTHUR SYDNEY THOMSON

Representing Shires other than  
Metropolitan Municipalities.

Cr. THOMAS RICHARD FLOOD, J.P.

Representing Cities, Towns and  
Boroughs other than Metropolitan  
Municipalities.

Cr. FRANCIS JOHN CUTTS, J.P.

\* (Appointed vice Cr. E. C. Rigby, who died on 16th September, 1958)



THIRTYSEVENTH REPORT OF THE  
COMMISSION OF PUBLIC HEALTH - 1958-59.

To the Honorable Ewen Paul Cameron, M.L.C.

Sir,

We have the honour to submit, in accordance with Section 23(3) of the Health Act, 1958, our report for the year ended the 30th June, 1959.

In the last report reference was made to an epidemic of influenza which first occurred in Australia in May, 1957, after having originated in South-East Asia early in that year.

The disease quickly reached epidemic proportions and spread rapidly throughout the State. It followed the usual pattern and after a brisk outbreak lasting about six weeks subsided rapidly.

The virus was isolated in Melbourne at the Walter and Eliza Hall Institute in July, 1957. In that month the disease was proclaimed a notifiable disease but shortly afterwards medical practitioners were relieved of the obligation of having to notify cases.

Another outbreak of influenza throughout the State which commenced in April, 1959, gained the immediate attention of the Commission. Throat swabs were obtained from various areas and submitted for identification of the virus. The epidemic was no doubt, at the commencement, of adeno virus origin but Asiatic influenza virus was then isolated. The epidemic spread more slowly than the 1957 epidemic and the number of cases was approximately half.

Representations were made to the Department by various bodies regarding the advisability of influenza immunisation and whether the vaccine should be made available.


The question as to the advisability of influenza immunisation and making immunisation material generally available was considered by the Commission. The subject was also discussed at a meeting of the National Health and Medical Research Council, and no suggestions were brought forward for measures other than those which had already been taken. The Council referred the matter of inoculation against influenza as a community measure to its Committee on Epidemiology and Infectious Disease. The findings of that Committee were in conformity with the measures which had already been adopted by the Commission, and are included as an appendix to this report.

RESPIRATORY VIRUS INFECTIONS.

During the year research workers at Fairfield Hospital isolated three different types of virus from groups of patients admitted to hospital with respiratory disease.

In the late autumn, several adeno viruses were recovered, followed in early winter by a return of the Asian strain of influenza A virus. As winter progressed the first of the HA (haemadsorption)





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viruses became evident in persons with croup and other forms of upper respiratory tract infection. This is believed to be the first record of the HA viruses being found in Australia.

Although the number of influenza cases did not reach the proportions of the 1957 pandemic, nevertheless large numbers of the population were affected. As notification of this disease has been discontinued, comparative figures of case incidence are not available.

The immune responses in the community in these two epidemics are informative. In the initial stages of the 1957 epidemic, no immune bodies to the prevalent type of Asian influenza were found. A gradual increase in the number of individuals showing antibody in their sera levelled out at 43% of the population. In 1959, the number of individuals with demonstrable antibody was 40% at the beginning of the epidemic and 60% one month later.

#### EPIDEMIC POLYARTHRITIS.

An outbreak of polyarthrititis occurred in the Murray Valley area during last summer involving several hundred persons.

Investigations were initiated by the District Health Officer in collaboration with the Walter and Eliza Hall Institute and Fairfield Hospital. The epidemiological pattern was similar to a previous outbreak in this area during 1956. There is strong evidence that this is an arthropod-borne virus infection - probably by mosquitoes.

Attempts to isolate a virus from specimens collected during the epidemic have been unsuccessful to date, however there is serological evidence that this disease may be caused by the group A or closely related viruses. These particular viruses have been isolated from mosquitoes but not from man.

Fortunately the condition clears up without permanent residual joint complications, although symptoms may persist for some months in isolated cases. The loss of time from employment varied from a few days to several weeks.

#### POLIOMYELITIS.

Poliomyelitis declined steadily from the introduction of immunisation in July, 1956, until the latter part of 1958, when there was an outbreak scattered through the western and northern suburbs. The focus of infection was a suburban creche, and this drew attention to the poor response to immunisation by pre-school children in certain areas. The number of cases notified in the last five years was -

1954	-	569
1955	-	235
1956	-	252
1957	-	13
1958	-	60
1959	-	29 (for six months)





Immunisation of the children continued and was extended to adults. It was conservatively estimated that at the end of June, 1959, 524,000 people had received the complete course, and almost 400,000 are awaiting their third dose.

The age distribution is as follows:-

Under 1	-	66,961
1 - 4	-	203,331
5 - 9	-	240,045
10 - 14	-	171,689
15 - 19	-	58,761
20 and over	-	176,413

The aftercare and consultative service for poliomyelitis patients continued to operate. Although the number of cases of poliomyelitis was small, an apparently increasing incidence of polyneuritis and increased referral of allied diseases fully utilised the facilities available and referral of patients is still well in excess of the rate of discharges from treatment.

#### DIPHTHERIA.

The incidence of cases of diphtheria has steadily declined from 148 notifications in the calendar year of 1955 to 35 cases in 1958.

The notifications for the first six months of 1959 have been 8. This trend is noted with satisfaction but gives no reason for complacency in immunisation policy and plans.

#### TETANUS.

During the ten-year period 1949-1958, 82 persons have died in Victoria from tetanus. Of three persons who contracted the disease following surgical operations last year, two died.

This serious situation prompted the Minister to appoint a Tetanus Prevention Committee, under the chairmanship of Dr. E. V. Keogh, to consider tetanus prevention in its widest aspects and advise on measures to lessen the incidence.

Following on the first meeting of this Committee in December 1958, the following recommendations were submitted to the Minister:-

- (1) Active immunisation to be extended to school children over the age of seven years (under the existing scheme provision is made to immunise younger children with triple antigen and C.D.T.).
- (2) Immunisation of industrial employees, particularly those under 30 years of age.
- (3) Active immunisation for patients undergoing lower limb operations.
- (4) Issue of a record card to every person immunised against Tetanus, containing details of the course and dates of inoculations.

The Committee approved of the procedure now in operation at certain hospitals whereby all patients on the surgical waiting lists are advised and offered active tetanus immunisation. It was further recommended that public hospitals should offer a course of active immunisation to every patient given tetanus antitoxin in the course of treatment.



### IMMUNISATION.

The policy of the Commission regarding immunisation against preventable diseases has been actively pursued.

An index of the scale of immunising procedures can be gained by the amount of immunising agents issued in the period from 1st July, 1958 to 30th June, 1959.

Triple Antigen	141,848 c.c.
Combined Diphtheria & Tetanus Toxoid	42,044 c.c.
Diphtheria Prophylactic (PT.AP.)	3,104 c.c.
Purified Diphtheria Toxoid (diluted)	757 c.c.
Purified Tetanus Toxoid (A.P.A.)	41,853 c.c.
Tetanus Prophylactic (Formalinised Toxoid)	2,522 c.c.
Small Pox Vaccine	25,195 doses
Pertussis (Prophylactic H.A.P.A.)	120 c.c.
Mixed Pertussis & Diphtheria Antigen	12 c.c.
Salk Vaccine	609,248 c.c.
Gamma Globulin	2,250 c.c.

### TUBERCULOSIS.

The trends revealed in previous years showing a decline in both morbidity and mortality rates are continuing and are a source of satisfaction, especially in relation to the expanding population of Victoria in general, and greater Melbourne in particular. It is emphasised however that although the situation is promising it gives no reason for complacency.

Institutional treatment has been readily available for all types of the disease, surgical and medical, and no waiting lists in any category are recorded.

A ward of 20 beds at Heatherton Sanatorium is available for the use of Prince Henry's Hospital for the accommodation of female convalescent patients.

Deaths numbered 145 in 1958, the mortality rate being 5.24 per 100,000 for all forms of tuberculosis, 4.85 being pulmonary and 0.39 non-pulmonary disease. Morbidity rate is 28.01 per 100,000, the total number being 776.

These figures compare favourably with preceding years, as shown hereunder:-

Year	Deaths	Mort. Rate	Notifications	Morb. Rate	Population
1954	245	10.	1,143	46.59	2,453,000
1955	222	8.79	974	38.55	2,526,000
1956	194	7.45	885	33.98	2,604,000
1957	145	5.42	813	30.40	2,674,000
1958	145	5.24	776	28.01	2,770,919







Case finding is proceeding along lines already long established, being based on mass x-ray surveys, tuberculin surveys associated with B.C.G. vaccination, as well as routine health hospital and practitioner services of the State.

The programme for mass x-ray surveys is being compiled to include annual visits to areas of denser population and greater movement of people in provincial areas, e.g. Latrobe Valley, Geelong, Ballarat and Bendigo, as well as the metropolitan radius and suburbs, while visits to the more sparsely populated areas, with little changes, are being made at 2 or 3 year intervals. Examination of persons according to trades and professions, e.g. hairdressers, barmen, firemen, teachers, etc., providing direct services to the public was commenced during the year.

Government and semi-Government departments have been approached to include routine chest x-ray examination, both initial and annual, as part of medical examination.

Of the 413,932 people included in the mass surveys for 1958, 184 (0.04%) were tuberculous (proved or possibly active), 1,087 (0.26%) were healed or quiescent T.B., 1,869 had non-tuberculous abnormalities of the lungs and chest. In this period, routine mass x-ray surveys have been undertaken in mental hospitals, institutions for the aged, and prisons. Routine x-rays of the chest have been continued for applicants for Old Age and Invalid Pensions, and for women attending ante-natal clinics. The incidence of active tuberculosis found in all these groups has been extremely low, and conforms to the general picture seen in the population.

Attendances at mass x-ray surveys have been very adversely affected by press and radio comments and reports on the potential dangers attributed to x-ray examinations. The Commission is satisfied that there is no danger whatever in the annual x-ray of the chest.

Tuberculin surveys in school children show that the percentage of natural positive reactors was 6.46% in the metropolitan area, and 5.72% in provincial and rural areas.

In the year 1958, admissions to sanatoria and chalets and approved tuberculosis beds at hospitals numbered 1,298, (male 787, female 511) - of which approximately 6% were migrants. These figures include 29 males and 28 females treated for non-pulmonary tuberculosis.

Tuberculosis allowances granted, as at December 31st, 1958, numbered 582, compared with 1,421; 1,302; 1,121; and 783 at the same dates in 1954, 1955, 1956 and 1957 respectively.

Country services, maintained by clinics based on chalets attached to the base hospitals, have been increased by establishing clinics, on a monthly basis, and serviced by or under the direction of Dr. R. Marshman, at Traralgon and Yallourn, centres of development and increasing population, and at Wonthaggi, where the need has been recognised for some time. The clinics have been well received by both the public and the profession.

Bovine tuberculosis is not a clinical problem in this State, but it is known that bovine infection, of up to 10% incidence, is present in some of the dairy herds in the main dairying districts. Therefore, it is a matter to be noted with gratification that a long-term programme has been undertaken by the State departments concerned to control and ultimately eliminate bovine tuberculosis from all herds in the State. This will





diminish the total tuberculosis reservoir, and at the same time remove a source of confusion in our tuberculin surveys.

The education of nurses in tuberculosis is being continued in two categories - post-graduate course for State registered nurses, and one year course for nursing aides. The former is freely availed of by interstate and Asian nurses. The recently established Victorian Nursing Council is to assume responsibility for the training of Tuberculosis Nursing Aides, in association with the Tuberculosis Service, and the added status given to the aides, now to be State registered, will be beneficial to recruiting for our sanatoria services.

The Victorian Tuberculosis Association continues to work actively in the fields of publicity, education and benevolence, and co-operates very fully with the State services. A cine-film, in colour, is made each year for showing at cinema theatres, publicising the value of chest x-ray as an annual event, and emphasising tuberculosis prevention as a "family" affair.

#### INFECTIVE HEPATITIS.

Infective Hepatitis remains endemic within the community and 1060 cases were notified in 1958, compared with 1372 in 1957. Notifications for the first six months of 1959 are slightly but not unduly in excess of those for the corresponding period of 1958. The level of endemicity appears to have settled down to that which existed before the peak years of 1955 and 1956.

The actual incidence of the disease is difficult to estimate, but must be considerable as only icteric cases are notifiable. The use of gamma globulin as a preventive measure in the protection of contacts and especially its use in outbreaks in institutions has been actively encouraged.

Great emphasis is still placed on general hygiene and sanitation.

#### DIARRHOEA AND DYSENTERY.

There has been no great variation in the incidence of either of these diseases during this year from past notifications. Localised outbreaks are promptly dealt with but the Commission feels that a reduction in the steady occurrence is a matter which is practicable. It also recognises the fact that many mild cases are not notified.

The observance of regulations in relationship to hygienic handling and carriage of food, of those pertaining to sanitation and pest control is again strongly emphasised.

#### DISSEMINATED SCLEROSIS.

A survey of disseminated sclerosis in Victoria was made at the request of the Consultative Council on Poliomyelitis. The established services of the Poliomyelitis Division were made available to the medical profession in a consultant capacity, and about 150 patients have been referred for physical treatment and assessment.





A number of patients were admitted to Fairfield Hospital for short periods and others have received out-patient help. Although it is felt that the help provided has been of benefit to these patients, it must be stressed that this does not alter the nature of the disease for which there is at present no specific treatment.

#### ENDEMIC GOITRE.

East Gippsland has been recognised as an endemic goitre region since its pioneering days. Recent experimental work has thrown new light upon factors called food goitrogens as well as iodine lack in the diet as aetiological agents.

For the past ten years iodine tablets have been issued free to school children. To assess the value of these tablets a survey was conducted throughout the area. Results suggested there had been an improvement in that the large goitre reported by earlier workers was not present but there was still evidence of the lower grade goitres in school children.

The survey is not yet complete, as the food goitrogens are considered to be in milk from cows grazing on certain weed-infested pastures. It is proposed therefore to conduct further surveys during the spring, summer and autumn of 1959-1960.

#### VENEREAL DISEASES DIVISION.

Notifications of venereal disease received during the calendar year 1958 are set out below:-

	<u>GONORRHOEA</u>			<u>SYPHILIS.</u>		
	<u>M.</u>	<u>F.</u>		<u>M.</u>	<u>F.</u>	
Government Clinic	535	128	663	72	21	93
Other sources	41	9	50	4	7	11
	<u>Total 713</u>			<u>Total 104</u>		

For purposes of comparison the total number of infections of gonorrhoea and syphilis reported in Victoria for both sexes in various years since 1951 are also quoted.

	<u>Gonorrhoea</u>	<u>Synhilis</u>
1951	718	281
1954	467	133
1957	809	162
1958	713	104

Although the Victorian population has expanded from about 2.3 million in 1951 to about 2.8 million in 1958, the number of reported infections has remained fairly stable. It is pointed out that the figures covering reported cases are only an indication of a trend, and are not of statistical significance to be related to incidence.

With deep regret the death of Sister Edith A. Adams is recorded. She died on the 7th April following a brief illness. Sister Adams had worked for 11 years in the Women's Clinic. She was noted for her kindness to the patients among whom she had made many friends.



PUBLIC HEALTH LABORATORY.

The annual total of examinations carried out in the three sections of the Public Health Laboratory shows a 4 per cent. rise over last year to the record number of 89,083.

Diphtheria:

Only seven virulent strains of Corynebacterium diphtheriae were isolated and there was no evidence of epidemic spread. Among these seven cultures no less than five serological types are represented. The sporadic nature of these cases pays tribute to the efficacy of the immunisation policy, but at the same time underlines the imperative need to continue it.

Salmonella:

The number of cultures of human origin which includes those isolated here, together with those received for identification from other laboratories, has continued to rise steadily as previously noted. The increase from 223 in 1957 to 275 for the year under review is due mainly to S.typhi-murium; S.bovis-morbificans and newport remain next on the list in regard to numbers. S.dorby, which produced a serious hospital outbreak some years ago, remains at a low endemic level. The trend over the last three years is tabulated below:

	<u>1956</u>	<u>1957</u>	<u>1958</u>
<u>S.typhi-murium</u>	133	131	206
<u>S.bovis-morbificans</u>	7	37	22
<u>S.newport</u>	16	26	17
<u>S.dorby</u>	4	6	6
Unclassified	16	23	24
	<u>176</u>	<u>223</u>	<u>275</u>

Among the unclassified are included three cultures of S.paratyphi B (phage type Dundee) from three members of a family in Box Hill. The first culture was isolated from a three year old child in Fairfield Hospital with enteritis: routine faecal specimens from the parents and the one other child in the family revealed that the father and the one year old brother were apparently transient symptomless excretors. Efforts to discover the source of this infection were without avail. Our records show that the only other isolation of this organism was from a case in 1955; no connection between these two foci could be established by inquiry.

S.nyborg - A species which has not previously appeared in our list of Victorian salmonellas was isolated from a child with gastro-enteritis in the Royal Children's Hospital: this rare species was found on one occasion in Papual dessicated coconut in 1953.

S.barielly - This is another unusual species which was encountered once only. This strain was isolated by the Geelong Hospital Laboratory and sent for identification.

Typhoid - There were six sporadic cases from which typhoid bacilli were isolated: one of these proved to be of phage type 38, a strain new to Australia. It came from an Italian woman whose history suggests that she may have acquired her infection in Europe. One further case due to this exotic type has since occurred so it is possible that the strain may become established in the community.







### Shigellosis:

The total number of human isolations was 224, as compared with 133 last year.

A major outbreak of shigella sonnei infection struck the town of Mansfield in April when something like a quarter of the population was affected: at least 321 people are known to have suffered to some degree. The situation was so urgent that an emergency laboratory was set up on the spot by members of the Public Health Laboratory staff. In the course of two weeks 600 specimens were examined, 48 of which yielded Sh.sonnei. The epidemiology of the outbreak was confusing, but it appeared that the State School may have been involved in disseminating the infection throughout the community. The epidemic persisted for about six weeks and ended abruptly.

Apart from this outbreak shigella isolations showed some general increase from previous years. Sh.sonnei has unfortunately appeared in at least three institutions caring for children.

Of other Shigella types, Sh.flexneri la remains next in importance.

Fundamental research into the pathology of shigellosis is being carried out in the Public Health Laboratory by Dr. Cooper and some of this work has already been submitted for publication.

### Staphylococcal Food-Poisoning:

Early in December some scattered cases of what appeared to be staphylococcal food-poisoning occurred in the Ringwood-Heathmont district. Inquiry suggested that corned beef manufactured in another suburb was responsible and this suggestion was substantiated by the isolation of Staph.pyogenes from a sample of the corned beef obtained in Ringwood and from the faeces of one patient. Phage typing showed some similarity between the two cultures, but the correspondence was not complete: both were penicillin resistant. At the request of the district health officer and the medical officer of health, a visit was paid to the factory and it was established that though the conditions of manufacture were quite good, on occasions when demand for the products was high and distribution was hurried, some of the smallgoods were not well chilled before despatch, so that any small inoculum of staphylococci - an organism noted for its resistance to the inhibitory effect of salt - could multiply rapidly in the meat. Advice was given to the manufacturer on prevention of contamination and the importance of rapidly cooling and maintaining the products at a low temperature at all times after cooking. During this investigation members of a family owning a retail smallgoods business were discovered to have suffered from gastro-enteritis. On examination of faeces from four members, two yielded staphylococci related to the phage type found in the corned beef from Ringwood, and three yielded also salmonellas - two S.chester and one S.derby. S.chester was also isolated from the corned beef on sale in their shop. This confusing episode further emphasises the dangers to the public of apparently minor lapses in food hygiene.

### Brucellosis:

A number of requests from practitioners for brucella agglutination tests increased during the year and the number of fresh cases - probably brucellosis - brought to light rose to 46 as compared with 37 in 1957. As has been evident in the past, this is frequently an occupational disease affecting dairy farmers, although a few cases occur in children and in older people who give no history of contact with cattle.





### TUBERCULOSIS BRANCH LABORATORY.

As a result of the successful activities of the State-wide campaign against tuberculosis, the number of specimens received for examination has begun to decline. This has made it possible to examine all sputum specimens by culture as well as microscopically.

Efforts to improve the efficiency of examination of all specimens have continued; in particular the introduction of the low-power objective to fluorescence microscopy enables a far greater volume of material, such as sputum, to be scanned for acid-fast bacilli, thus rendering the examination more reliable.

During the year an interesting phenomenon came to light when it was noticed that fasting gastric contents from a large number of patients in a certain country hospital yielded on culture a growth of saprophytic acid-fast bacilli: these were sometimes associated with a coincident growth of mycobacterium tuberculosis. Investigations showed that the saprophyte existed as a contaminant in the large bottle of "sterile" water which was used to top up the bottles issued for collecting the specimens of fasting gastric contents. The problem was solved by providing smaller bottles of truly sterile water for this purpose.

### CHEMICAL LABORATORY.

General: Miss M.K. Evans retired on the 30th May, 1959, after having been chemist in charge of the Health Section of the State Laboratories since the latter were established in 1932, and previously when the laboratory was at Queen Street. She had accumulated a wide experience in food chemistry and court procedure which will be hard to replace.

The total number of samples submitted during the year under review showed an increase of 20% over the previous year and an additional chemist was appointed to the staff.

The samples submitted covered the usual wide range, in which foodstuffs predominated, and three types of these are worthy of mention.

#### Olive Oil.

A number of samples of olive oil were found to be adulterated by admixture with other vegetable oils and successful prosecutions resulted; one sample consisted mainly of maize oil with just sufficient olive oil to give a flavour. The adulteration was found to have been carried out by local bottlers.

#### Meat and Meat Products.

Many samples of sausage meat or sausages were found to be deficient in meat content and/or to contain excess fat. A number contained preservative above the permitted maximum. However, as far as preservative is concerned, most trouble was experienced with chopped meats containing sulphur dioxide, which is not allowed in any fresh meat. In some cases, it was alleged in defence that the chopped meat contained a trace of salt and therefore came under the definition of "sausage meat". This attempt at evasion of the Regulations is at present receiving attention, with a view to appropriate action. Many butchers appear to be determined to add sulphur dioxide to such meat and are not deterred by occasional fines.





### Coal Tar Colours.

The list of coal tar dyes permitted to be used to colour foods was recently amended. The present list is now common to all States and does not include a number of dyes previously permitted. The laboratory has been involved in a considerable amount of work in investigating methods for identification of these dyes and in analysing various types of food for the nature of the colouring present. The colouring of the casings of saveloys with a non-permitted dye has resulted in numerous prosecutions and has caused considerable discussion. It is therefore of interest to examine this matter in some detail.

Practically every country has reviewed, or is reviewing, food colours as many previously in use and thought to be harmless have since been proved to be dangerous. The Commonwealth Food Additives Committee, on whose recommendation all States adopted the current list, laid down the following principles for guidance:-

Coal tar dyes should be prohibited in food unless:

- (a) artificial colouring of a particular food is desirable in the public interest;
- (b) the desired shade cannot be retained or derived from the natural colour by any practicable improvement in processing;
- (c) there exists no satisfactory alternative colouring agent which is itself a foodstuff or a derivative of a foodstuff; and
- (d) the innocuity of the aniline or synthetic dye proposed to be used cannot reasonably be called in question.

Under (d), coal tar dyes were rejected as unsuitable food colours if they fell into any of the following categories:-

1. Fat-soluble dyes - such are stored in the body and cause liver damage.
2. Basic dyes - stain protein and are not readily eliminated.
3. Carcinogenic tendencies - without going into a detailed chemical discussion, it has been proved that coal tar dyes containing certain organic derivatives in their constitution or breaking down in the system to certain organic compounds, are definitely carcinogenic when tried with experimental animals, or are strongly suspect.
4. Toxicity - the dye stuff itself must not be toxic nor should it contain toxic intermediate products or excessive amounts of poisonous metals or other poisonous ingredients.

It will be generally agreed that the foregoing is a sound basis on which to view the whole question of coal tar food dyes and that a dyestuff that is suspect of falling into any of the above categories, although not definitely proved so, should not be included in a permitted list until further investigation has proved it harmless

### Saveloys and Frankfurts.

The exclusion of some of the older dyes caused some temporary inconvenience to food manufacturers and particularly to those making frankfurts and saveloys, where Orange II (not now permitted) was generally used to colour the skins. Orange II is one dye which has been proved to be harmful, it has carcinogenic properties and can cause liver damage.





Apparently, some smallgoods manufacturers have been prepared to run the risk of prosecution by continuing to use this particular dye and, in most cases at least, this has not been done in ignorance; the trade generally is aware that Orange II is prohibited for this purpose.

Orange II, along with many other dyes not allowed for food colouring, is used for other purposes and there would be no justification for prohibiting its entry into the country. Further, if it is sold to a purchaser simply as a dye, without any indication by him that it will be used to colour food, the vendor cannot be held liable if, later, it is so used.

The Regulations require that any colouring sold for or intended for colouring food shall bear a label stating the name of the dye or dyes present, or the Rowe Colour Index number. Provided this regulation is strictly policed and, as a result, the purchaser is aware of the dye or dyes present, the responsibility for use of a prohibited dye must rest on the food manufacturer.

#### PROPRIETARY MEDICINES ADVISORY COMMITTEE.

Since the Proprietary Medicines Legislation first came into operation in February, 1948, 10,400 applications for registration have been received, and of this number 8,200 preparations have been registered. New applications are being received at an average rate of sixty per month.

The Commission desires to express its appreciation of the work of Mr. A. W. McGibbony, O.B.E. Mr. McGibbony was nominated to the committee at its inception in 1948, as representing the Pharmacy Board of Victoria. He remained a member until beset by ill-health, and retired on 4th June, 1959. Mr. McGibbony possessed a unique knowledge of the classifications of poisonous substances and was a most valued member of the committee.

#### S E W E R A G E.

The decision of Cabinet to increase the allotment of funds for provincial sewerage has resulted in a revival of interest in this field and work is proceeding at Korumburra and Sale, and is about to commence at Lorne. Schemes for these townships were considered by the Commission some years ago but remained in abeyance because of financial difficulties.

During the year the Commission approved of a site for the sewage treatment works for Wodonga. It is expected that several additional schemes will be considered during next year.

#### Mass Septic Tank Installations.

The year saw the completion of the thirtythird township installing septic tanks to serve each house under the provisions of Part XLVI of the Local Government Act. Four additional townships are likely to be completed in the next year. This section of the Act provides for financing such schemes as for private road construction and requires the Commission's approval of the installations.

Some of the early schemes of this nature provided for units of the dry type only but with the advent of the 6-pint flushing pedestal, it is now usual to install the more satisfactory wet type.





### PUBLIC BUILDINGS.

The number of approvals of plans and specifications of new public buildings and additions and alterations to existing public buildings remained at the high level of recent years. For the year under review the figures were 488 new buildings and 460 additions and alterations, total examinations, 948. Pre-school and infant welfare centres represented the largest single group of new undertakings.

Inspections of public buildings during public occupation continued throughout the year, the total number of visits being 1,500. A number of prosecutions were successful, for breaches of the regulations detected during these visits, but generally it was found that conditions were satisfactory. No instance of overcrowding of a picture theatre was reported, attendances generally being poor. The number of theatres closed down now total 36, and many more operated on restricted schedules.

### PUBLIC WATER SUPPLIES.

The recommendation of the Commission that a chemist be appointed for the supervision of plants chlorinating public water supplies throughout Victoria has been effected. This officer is working from the Department of Health in collaboration with the State Rivers and Water Supply Commission and has covered a large proportion of the State.

The main approach has been through the Local Water Trusts, to whom recommendations are submitted. Many deficiencies have become apparent but the work is continuing and expanding.

### AIR POLLUTION.

The Clean Air Committee has continued with its survey of the methods adopted in different parts of the world to detect and control air pollution.

Four sub-committees, as under, have been formed to assist the functioning of the main committee.

#### Research Sub-Committee.

To advise on measures of research which should be carried out such as the investigation of fall-out in Melbourne and other areas.

#### Investigation and Action Sub-Committee.

To concern itself with practical measures to be taken to eliminate existing air pollution problems.

#### Publicity and Education Sub-Committee.

To devise and arrange publicity and educational programmes for health inspectors and other municipal officers, and persons connected with the combustion of fuel.

#### Legislation Sub-Committee.

To review existing legislation and prepare draft regulations for consideration by the full committee.





Towards the end of the year a senior research officer was appointed to the staff of the General Health Branch to assist with air pollution matters. The branch now has a staff of two officers who are engaged full-time on air pollution problems.

#### INDUSTRIAL HYGIENE DIVISION.

Considerable changes in the Industrial Hygiene Division have been necessary to administer the Irradiating Apparatus and Radio-active Substances Regulations 1959, which were promulgated in May of this year.

An administrative officer has been added to the staff in order to cope with the extra clerical work involved and a medical officer has been seconded to the staff from the Tuberculosis Branch to supervise the hazards associated with the use of radiation in medical, dental and veterinary work.

A scientific officer of the Division who has undergone special training in the subject is supervising the hazards associated with the use of radiation in industry.

Unfortunately this has had the effect of depleting the scientific staff engaged in general duties and until an extra scientific officer is made available there will be inevitably a curtailment of some of the other activities of the Division.

Many early difficulties have been encountered in the administration of the regulations, but such could only be expected with new legislation in a relatively unexplored field.

On the other hand, the generally co-operative attitude of people engaged in radiation work has helped to smooth out most of the difficulties that have arisen.

#### AERIAL BAITING BY MEANS OF 1080 RABBIT POISON.

During the year the Health Department co-operated with the Agriculture Department in this method of destruction of the rabbit pest.

It has been considered to be a useful method of attack in inaccessible forest and mountainous areas adjoining pastures. Diced carrots cut into  $\frac{1}{2}$ " -  $\frac{3}{4}$ " cubes, sprinkled with a solution of 1080 (Sodium Fluoroacetate), in the proportion of 1/10 oz. to 20 lbs. of carrots have been used.

The Health Department felt that possible contamination of water supplies and risk of children getting access to the poison needed supervision. This has been conscientiously carried out by district health officers in co-operation with inspectors of the Lands Department.

At one stage it was suggested that a mixture of jam and 1080 might be utilised near burrows, expressed from a type of pressure gun. However, the Health Commission felt this was inadvisable because of the risk to children.





DRYCLEANING STERILIZATION OF HOSPITAL  
BLANKETS.

Investigations into the efficacy of the drycleaning - quaternary ammonium compound method of sterilizing blankets is being carried out at Fairfield Hospital by departmental officers in conjunction with Mr. H. A. George (chief engineer) and Dr. Ferris (pathologist).

The results of this study to date using a non-ionic detergent and a commercial quaternary ammonium compound show that whilst a marked reduction in bacteria occurs after processing, the finished blanket is not entirely sterile. There is some residual bactericidal effect in the blankets which, although not marked, does reduce the bacterial count. Whether this residual effect is of significance in reducing cross-infection in a hospital ward can only be determined by controlled studies.

The plant was installed at Fairfield Hospital by the Hospitals and Charities Commission and the Health Commission as a pilot study on blanket sterilization.

LEGISLATION.

The following consolidating legislation came into operation on 1st April, 1959:-

Cemeteries Act, 1958 (No.6217).  
Clean Air Act, 1958 (No.6220).  
Health Act, 1958 (No.6270).  
Venereal Diseases Act, 1958 (No.6408).

The Health Act, 1959 (No.6507) came into operation on 5th May, 1959, and provides that the council of any municipality must obtain the consent in writing of the Commission before establishing any garbage or sanitary depot. The Act also enables councils to levy a charge for the disposal of trade waste; increases the salary of the Director of Tuberculosis; provides new powers in relation to the notification of disease; alters the definition of an "apartment house"; prohibits the use of certain substances in the manufacture of toys, decorative paper and paper serviettes; and makes provision for councils to charge higher fees for the registration of certain premises.

The Cemeteries Act, 1959 (No.6530), which was given Royal Assent on 12th May, 1959, provides for several amendments to the law relating to certification of death for cremation purposes, and is in accordance with the recommendations of a special committee whose report was accepted by the Commission last year.

Among other things the new Act provides for the introduction of an application for cremation form which is to be completed and signed by the executor or next-of-kin of the deceased. The Act also amends the form of the certificates, which are given by the doctor who attended the deceased and the certifying medical practitioner.

The Act has yet to be proclaimed. The Commission has made a tentative recommendation that it should be brought into operation on 1st February, 1960, provided that the necessary forms can be printed and distributed beforehand.



REGULATIONS.

The following regulations were approved:-

Food and Drug Standards Regulations, 1958.

This is a consolidation of the numerous amending Food and Drug Standards Regulations with the earlier basic regulations of 1939.

Amending Public Building Regulations 1958 (No.3).

These regulations provide that for a two-leaf exit door of a public building (except theatres) any type of lock may be provided other than a lock which prevents the two leaves from separating.

Irradiating Apparatus and Radio-active Substances Regulations, 1959.

Provide for the licensing of all irradiating apparatus and radio-active substance intended to be held, used, sold or transported.

The regulations also provide for general safety precautions; the medical examination of employees exposed to a radiation hazard; the disposal of radio-active wastes; the control of radio-active contamination; and the transport of radio-active substances.

Amending Food & Drug Standards Regulations 1959 (No.1).

These regulations define antioxidants and prescribe the kinds and quantities that may be added to certain foods; amend the list of poisonous substances and the quantities thereof that are permitted in or on food; define standards for flavoured skim milk powder and concentrated flavoured cordials.

PROCLAMATIONS AND ORDERS-IN-COUNCIL.

The offensive trades provisions of the Health Act (so far as those provisions are applicable to piggeries) were extended to the whole of the municipal district of the Shire of Ararat.

Portion of the municipal district of the Shire of Corio was prescribed for the purpose of preventing the deposit of nightsoil.

Two new meat areas, Benalla and South Gippsland were constituted.

Authority was given to the Council of the City of Melbourne to establish a garbage tip in a large quarry hole at Brunswick.





GENERAL.

Dr. W. E. Summons acted as Chairman of the Commission for three months during the absence of the Chief Health Officer on long service leave. During the same period Dr. R. J. Farnbach also acted for the Chief Health Officer in respect of his official commitments as head of the General Health Branch and various statutory committees.

Mr. G. W. Rogan succeeded Mr. G. V. Stafford as Secretary of the Commission following Mr. Stafford's transfer to the Mental Hygiene Branch.

In March, Dr. E. Forbes Mackenzie left for Great Britain and the United States of America in furtherance of investigations on immunisation and other public health matters for which he was awarded a Commonwealth Health and Medical Research Council Fellowship.

Respectfully submitted -

KEVIN BRENNAN	)	
	)	
WALTER SUMMONS	)	
	)	
FRANK J. CUTTS	)	
	)	
A. S. THOMSON	)	Members of the
	)	
T. R. FLOOD	)	Commission.
	)	
H. McLORINAN	)	
	)	
A. K. LINES	)	

G. W. ROGAN

Secretary,  
Melbourne, 29th September, 1959.





NATIONAL HEALTH AND MEDICAL RESEARCH  
COUNCIL COMMITTEE ON EPIDEMIOLOGY & INFECTIOUS DISEASE.

The Committee on Epidemiology and Infectious Disease met at the Commonwealth Serum Laboratories, 12th June, 1959.

Present:

Professor E. Ford            -            Chairman  
Professor H. Ward.  
Dr. P. L. Bazeley.  
Dr. C. E. Cook

Co-opted members -

Dr. E. V. Keogh  
Dr. H. McLorinan  
Dr. S. Fazekas  
Dr. E. L. French  
Dr. A. A. Ferris  
Dr. R. W. Greville

The Committee received -

1. From the National Health and Medical Research Council  
a request for -
  - (a) An explicit statement upon polyvalent influenza virus vaccines, their efficacy, the duration of immunity conferred, their freedom from side effects and their value in the control of epidemics.
  - (b) Advice upon the practicability of immunisation against epidemic upper respiratory tract infections.
2. From the Commissioner of Public Health, Western Australia,  
a request for definite answers to the following questions about influenza vaccination.
  - (a) The value of vaccination where the vaccine has been prepared from the specific strain involved.
  - (b) The value of a stock vaccine which contains the type but not the specific strain.
  - (c) The value of a stock vaccine which does not contain the type.
  - (d) Time taken to develop immunity after vaccination and duration of immunity.

1. (a) POLYVALENT INFLUENZA VACCINE.

Efficacy: Polyvalent vaccines can afford considerable protection against the clinical effects of infection with Influenza virus when the virus concerned is included in sufficient amount in the vaccine; under these conditions, substantial protection (up to 75%) from clinical Influenza can be expected.



If, however, a new sub-type of virus appears and becomes prevalent in epidemic form no protection can be anticipated from a vaccine which does not include it.

The emergence of new sub-types of virus can not be precisely forecast, but in past experience, new variants of Influenza A have been identified at intervals of 10 to 15 years - in 1918, 1933, 1946 and 1956. With Influenza B, changes have been less frequent.

Duration of Immunity. Some degree of protection may be anticipated 14 days after the administration of an adequate dose of the vaccine and maximum protection at about the second month. Protection may be expected to last from 1 to 2 years.

A recommended course consists of two doses of vaccine, one month apart followed by a re-inforcing dose after an interval of 12 months.

Side Effects: At present influenza virus for use in vaccines is grown in eggs and allergic reactions may be expected in persons sensitive to egg protein.

Toxic reactions (3 to 4% general and 3 to 4% local) are likely to occur in some 6% of cases when the vaccine is given subcutaneously. If the vaccine is administered intradermally, this risk is appreciably reduced.

Although, theoretically, the repeated injection of the egg protein content in the vaccine could produce sensitivity, this has not been observed in practice in extensive trials.

It is expected that influenza vaccine from which the egg antigen has been removed will ultimately be produced.

Control of Epidemics: Although a suitable vaccine will avert the development of symptoms of clinical influenza, it cannot be expected to prevent the spread of virus through the community. It is unlikely therefore that non-vaccinated persons will be safe-guarded by the protection of the vaccinated.

In an epidemic year when the prevailing virus is without major antigenic change from the previous year, vaccines would be useful to protect those previously unvaccinated with those who have not experienced infection with the prevalent strain. If no new sub-type appears, the vaccine should to this extent reduce the prevalence of clinical influenza.

If a new antigenic sub-type should appear and become epidemic, there would be very little opportunity with methods at present in use to prepare, issue and administer an effective vaccine in sufficient quantity to influence the course of an epidemic.

#### (b) VACCINES FOR UPPER RESPIRATORY TRACT INFECTIONS.

The Committee considers that at present there is not sufficient evidence about upper respiratory tract infections other than influenza to justify the use of vaccines in an attempt to control them. The Committee emphasises the desirability of the Commonwealth Serum Laboratories conducting further research into the production and value of these vaccines. In particular, assessment of their value should be undertaken by submitting them to field trial.





(Appendix continued)

2. QUESTIONS FROM WESTERN AUSTRALIA.

In its consideration of four questions from Western Australia, the Committee has substituted the word "sub-type" for the word "type" throughout.

With this substitution, the Committee's answers are:-

- (a) A vaccine in which at least 100 CCA of the prevalent sub-type of influenza virus is included will give up to 75% protection.
- (b) See 1.
- (c) No value.
- (d) Some protection will be obtained at 14 days. Maximum protection may be expected two months after administration. If a re-inforcing dose is given after the lapse of a year, protection may be expected to endure for another 1 or 2 years.

3. GENERAL.

The Committee recognises that a number of problems related to large scale immunisation against influenza still require solution and considers that the Commonwealth Serum Laboratories should be supported in research projects, including field trials of vaccines, directed to their elucidation.

The Committee emphasises that the value of an influenza vaccine as a prophylactic at any time will depend upon its containing in adequate amount the prevalent sub-type of virus. It is important therefore that the Commonwealth Serum Laboratories as manufacturers of the vaccine should at all times be aware of the prevalence of influenza viruses in different parts of Australia.

The Committee considers that this purpose might most readily be served by the free interchange of information between the Commonwealth Serum Laboratories and other virus laboratories throughout Australia. To develop an adequate liaison for this purpose the Committee suggests that an early conference of interested virologists might be arranged at the Australian National University.

In order that the scope of enquiry may be extended Health authorities might consider practicable measures to encourage the collaboration of medical practitioners in the submission of material for study by laboratories staffed and equipped for the identification of viruses.

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VITAL STATISTICS.

POPULATION AT 31ST DECEMBER, 1953.

Victoria	..	..	..	2,416,054*
Metropolitan Area	..	..	..	1,426,500

SUMMARY OF VITAL STATISTICS, VICTORIA, 1953.

Division.				Number of—				Rate per 1,000 of Mean Population.†			Infantile Mortality.
				Marriages.	Births.	Deaths.	Deaths under One Year.	Marriages.	Births.	Deaths.	Deaths under One Year per 1,000 Births.
Greater Melbourne	..	..	..	..	27,560	13,731	544	..	19·51	9·72	19·74
Remainder of the State	..	..	..	..	26,001	8,919	589	..	26·74	9·17	22·65
Victoria	..	..	..	19,258	53,561	22,650	1,133	8·07	22·46	9·50	21·15

\* Revised in accordance with preliminary results of the Census of 30th June, 1954.  
† Subject to revision.

BIRTHS.

The following table shows the birth rates from 1855 to 1953 :—

Period.				Average Annual Births.	Rate per 1,000 of Population.	Period.				Average Annual Births.	Rate per 1,000 of Population.
1855-59	..	..	..	17,154	38·49	1938	..	..	..	30,344	16·25
1860-64	..	..	..	24,060	43·29	1939	..	..	..	30,493	16·20
1865-69	..	..	..	25,963	39·77	1940	..	..	..	31,962	16·86
1870-79	..	..	..	26,971	34·60	1941	..	..	..	34,406	17·76
1880-89	..	..	..	30,113	31·45	1942	..	..	..	35,927	18·27
1890-99	..	..	..	34,310	29·37	1943	..	..	..	39,117	19·74
1900-09	..	..	..	30,655	24·92	1944	..	..	..	39,358	19·70
1910-19	..	..	..	33,800	24·27	1945	..	..	..	41,200	20·46
1920-29	..	..	..	35,457	21·77	1946	..	..	..	46,693	22·99
1930	..	..	..	33,127	18·55	1947	..	..	..	47,366	23·06
1931	..	..	..	30,332	16·68	1948	..	..	..	46,099	22·06
1932	..	..	..	27,464	15·18	1949	..	..	..	46,873	21·92
1933	..	..	..	28,302	15·59	1950	..	..	..	49,830	22·61
1934	..	..	..	27,828	15·20	1951	..	..	..	50,553	22·28
1935	..	..	..	27,884	15·16	1952	..	..	..	53,738	23·02
1936	..	..	..	28,883	15·63	1953	..	..	..	53,561	22·46
1937	..	..	..	29,731	16·02						

MARRIAGES.

Marriages in Victoria in 1953 numbered 19,238.

Period.				Marriage Rate per 1,000 of Population.	Period.				Marriage Rate per 1,000 of Population.
1931	..	..	..	5·66	1942	..	..	..	12·02
1932	..	..	..	6·49	1943	..	..	..	9·26
1933	..	..	..	6·96	1944	..	..	..	8·94
1934	..	..	..	7·57	1945	..	..	..	8·20
1935	..	..	..	8·38	1946	..	..	..	10·54
1936	..	..	..	8·61	1947	..	..	..	9·95
1937	..	..	..	8·74	1948	..	..	..	9·59
1938	..	..	..	9·16	1949	..	..	..	9·38
1939	..	..	..	9·23	1950	..	..	..	9·22
1940	..	..	..	11·76	1951	..	..	..	9·31
1941	..	..	..	10·79	1952	..	..	..	8·66
					1953	..	..	..	8·07

The 1931 figure is the lowest recorded in the history of the State.

The marriage rate of 12·02 per 1,000 of population in 1942 was the highest on record.



INFANT MORTALITY.  
(Deaths under One Year.)

Period.			Mortality Rate per 1,000 Births.			Period.			Mortality Rate per 1,000 Births.		
			Metropolitan Area.	Rest of State.	Victoria.				Metropolitan Area.	Rest of State.	Victoria.
1880-84	..	..	170·1	92·3	120·0	1937	..	..	37·1	36·3	36·7
1885-89	..	..	178·5	97·9	133·3	1938	..	..	34·1	34·3	34·2
1890-94	..	..	140·4	94·9	114·7	1939	..	..	32·3	38·9	35·6
1895-99	..	..	131·5	100·0	112·5	1940	..	..	39·7	39·2	39·5
1900-04	..	..	116·5	86·2	98·2	1941	..	..	34·6	38·1	36·2
1905-09	..	..	96·5	71·5	81·2	1942	..	..	43·8	38·9	41·6*
1910-14	..	..	84·2	64·9	73·8	1943	..	..	34·1	38·2	35·8
1915-19	..	..	76·2	55·4	66·1	1944	..	..	31·0	33·3	32·0
1920-24	..	..	71·6	58·6	65·3	1945	..	..	26·9	29·6	28·0
1925-29	..	..	58·3	50·2	54·3	1946	..	..	27·0	27·3	27·2
1930	..	..	50·7	42·3	46·5	1947	..	..	26·8	25·6	26·3
1931	..	..	48·0	41·1	44·7	1948	..	..	23·8	24·1	23·9
1932	..	..	47·7	38·9	43·0	1949	..	..	20·3	23·8	21·9
1933	..	..	40·9	40·0	40·4	1950	..	..	19·4	20·9	20·1
1934	..	..	48·2	41·4	44·6	1951	..	..	20·8	24·6	22·6
1935	..	..	43·0	39·5	41·2	1952	..	..	21·9	22·7	22·3
1936	..	..	44·1	40·7	42·3	1953	..	..	19·7	22·7	21·2

\* The high infant mortality rate for 1942 can be ascribed to whooping cough.  
Details will be found in the report of the Maternal and Child Hygiene Branch.

DEATHS.

The number of deaths in 1953 was 22,650 and the death rate per 1,000 of population in 1953 was 9·50.

Period.			Average Annual Number of Deaths.	Rate per 1,000 of Mean Population.	Period.			Average Annual Number of Deaths.	Rate per 1,000 of Mean Population.
1870-79	..	..	12,133	15·50	1939	..	..	20,169	10·72
1880-89	..	..	14,510	15·13	1940	..	..	20,293	10·70
1890-99	..	..	16,618	14·21	1941	..	..	20,416*	10·54
1900-09	..	..	15,194	12·38	1942	..	..	21,973*	11·18
1910-19	..	..	15,994	11·47	1943	..	..	21,327*	10·76
1920-29	..	..	16,524	10·03	1944	..	..	20,502*	10·26
1930	..	..	15,959	8·93	1945	..	..	20,496*	10·18
1931	..	..	17,033	9·47	1946	..	..	21,534*	10·60
1932	..	..	16,805	9·29	1947	..	..	21,442*	10·44
1933	..	..	17,456	9·59	1948	..	..	21,825	10·44
1934	..	..	18,648	10·18	1949	..	..	21,991	10·28
1935	..	..	18,456	10·03	1950	..	..	22,341	10·14
1936	..	..	18,778	10·16	1951	..	..	23,446	10·33
1937	..	..	18,613	10·03	1952	..	..	23,322	9·99
1938	..	..	18,955	10·15	1953	..	..	22,650	9·50

\* Excludes deaths of Defence personnel and of Internees and Prisoners of War from overseas.

MATERNAL DEATHS.

Period.	Average Annual Number of Deaths from—							Total.		Rate per 10,000 Live Births from—							Total.	
	Sepsis of Pregnancy, Childbirth and the Puerperium.	Toxaemias of Pregnancy and the Puerperium.	Haemorrhage of Pregnancy and Childbirth.	Abortion without mention of Sepsis or Toxaemia.	Abortion with Sepsis.	Other Complications of Pregnancy, Childbirth, and the Puerperium.		Including Criminal Abortion.	Excluding Criminal Abortion.	Sepsis of Pregnancy, Childbirth, and the Puerperium.	Toxaemias of Pregnancy and the Puerperium.	Haemorrhage of Pregnancy and Childbirth.	Abortion without mention of Sepsis or Toxaemia.	Abortion with Sepsis.	Other Complications of Pregnancy, Childbirth, and the Puerperium.		Including Criminal Abortion.	Excluding Criminal Abortion.
1930-34	..	..	..	..	..	..	160	160	133	..	..	..	..	..	..	54·37	54·37	45·20
1935-39	..	..	..	..	..	..	139	139	98	..	..	..	..	..	..	47·17	47·17	33·12
1940-44	..	..	..	..	..	..	120	120	80	..	..	..	..	..	..	33·14	33·14	22·18
1945-49	..	..	..	..	..	..	69	69	56	..	..	..	..	..	..	15·12	15·12	12·36
1950	..	4	15	3	3	8	10	43	35	0·80	3·01	0·60	0·60	1·61	2·01	8·63	7·02	
1951	..	3	19	8	2	10	8	50	40	0·59	3·76	1·58	0·40	1·98	1·58	9·89	7·91	
1952	..	4	13	4	3	6	7	37	32	0·74	2·42	0·74	0·56	1·12	1·30	6·88	5·95	
1953	..	1	8	6	2	6	4	27	24	0·19	1·49	1·12	0·37	1·12	0·75	5·04	4·48	

NOTE.—The above table shows the causes of maternal deaths in 1950 according to the Sixth Revision of the International List of Causes of Death. Corresponding details are not available for years prior to 1950.

DEATH RATES FROM CERTAIN CAUSES.

Cause of Death.	Deaths per Million of Population.*									
	1908-12.	1944.	1945.	1946.	1947.	1948.	1950.‡	1951.‡	1952.‡	1953.‡
Heart diseases (including the conditions producing diseases of the heart)† .. .. .	1,141	3,020	3,151	3,293	3,275	3,394	3,242	3,363	3,297	3,106
Cancer .. .. .	838	1,331	1,366	1,396	1,416	1,385	1,456	1,397	1,423	1,411
Nephritis, acute and chronic .. .. .	576	639	646	640	573	547	246	227	182	174
Pneumonia and broncho-pneumonia .. .. .	834	576	558	613	555	594	383	427	314	276
Accidental violence .. .. .	531	390	333	420	478	460	497	527	549	492
Tuberculosis (all forms) .. .. .	1,037	377	363	350	330	307	196	179	148	117
Diabetes .. .. .	107	208	208	213	213	217	167	156	176	173
Gastro-enteritis and colitis, except diarrhoea of newborn .. .. .	..	..	..	..	..	..	48	70	41	42
Diphtheria .. .. .	122	17	19	8	6	5	5	3	4	1

\* Subject to revision.  
† Increase due to form of certification of death having been changed.  
‡ Death rates from certain causes according to the Sixth Revision of the International List of Causes of Death.

NOTE.—Owing to changes in classification, rates given for nephritis, pneumonia, and diabetes for 1950 and 1951 are not strictly comparable with those given for years prior to 1950.

NOTE.—Rates given for 1950 and subsequent years are not strictly comparable with those given for earlier years owing to the introduction of the Sixth Revision (1948) of the International List of Causes of Death.

